

Name: \_\_\_\_\_

## Trigonometry Functions of Any Angle

- 1) Find all six trigonometric functions for  $\varphi$  if the point (2,1) lies on the terminal side of  $\varphi$  in standard form position.
  
  
  
  
  
  
  
  
  
  
- 2) Find the exact value of each expression:
  - 1)  $\tan 180^\circ - 2\cos 180^\circ + 3\csc 270^\circ + \sin 90^\circ$
  - 2)  $\sin 0^\circ + 3\cot 90^\circ + 5\sec 180^\circ - 4\cos 270^\circ$
  - 3)  $(7\tan 405^\circ + 3\sin 1080^\circ)(49 \tan^2 405^\circ - 21 \tan 405^\circ \sin 1080^\circ + 9\sin^2 1080^\circ)$
  
  
  
  
  
  
  
  
  
  
- 3) Find the value of  $\frac{\sin \theta + \cos \theta - \tan \theta}{\sec \theta + \csc \theta - \cot \theta}$  if  $\tan \theta = -\frac{4}{3}$ .
  
  
  
  
  
  
  
  
  
  
- 4) If  $\tan 25^\circ = a$ , Simplify the expression  $\frac{\tan 155^\circ - \tan 115^\circ}{1 + \tan 155^\circ \tan 115^\circ}$  and write your final answer in terms of a

5) Given:  $f(x) = \sin^3 x + \cos^3 x - \sin x - \cos x$ .

Find:

1)  $f\left(\frac{\pi}{6}\right)$

2)  $f\left(\frac{\pi}{3}\right)$

6) Find all six trigonometric functions of  $\theta$  if the given point is on the terminal side of  $\theta$ . The point is :  $(-9a, 12a)$

7) Find the values of the six trigonometric functions of an angle A in standard position whose terminal side passes through  $(5, 12)$ .

8) Determine the quadrant in which  $\theta$  lies.

1)  $\sin \theta < 0$  and  $\cos \theta < 0$

2)  $\sec \theta > 0$  and  $\cot \theta < 0$

3)  $\sin \theta > 0$  and  $\cos \theta < 0$

4)  $\csc \theta < 0$  and  $\tan \theta > 0$